

Applicants : Josette Masle et al.
Serial No. : 10/519,135
Filed : August 15, 2005
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REMARKS

Claims 37 to 47 were pending in this application. Applicants have amended each of claims 37, 40 to 42 and 45 to 47, and added new claim 48 herein. After entry of this Amendment, claims 37 to 48 will be pending and under examination in the subject application.

Support for the amendments to each of claims 37 and 42 can be found, *inter alia*, in the specification at page 2, lines 6 to 10 and page 50, line 27 to page 51, line 6.

Support for the amendments to each of claims 40 and 45 to 47 can be found, *inter alia*, in the specification at page 50, line 27 to page 51, line 6.

Support for new claim 48 can be found, *inter alia*, in the specification at page 2, lines 6 to 10, page 11, lines 8 to 10; page 12, lines 11 to 16; page 14, line 24 to page 17, line 18; page 17, lines 26 to 28; page 23, lines 23 to 25; page 24, lines 27 to 30; page 25, lines 23 to 25; page 26, lines 4 and 5; page 44, lines 14 to 17; page 49, lines 28 to 30; page 50, line 27 to page 51, line 6; page 51, lines 15 and 16; page 57, lines 7 to 10; page 63, lines 7 to 13; page 66, lines 18 to 21; page 67, lines 28 to 31.

Status of Objections

On page 2 of the July 31, 2007 Final Office Action, the Examiner indicated that all previous objections to the specification have been withdrawn in light of amendments to the specification. The Examiner also indicated that all previous objections to the drawings have been withdrawn in light of amendments to the

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drawings. Additionally, the Examiner indicated that all previous claim objections not set forth below have been withdrawn in view of claims amendments.

Election Restriction

The Examiner indicated that newly submitted claims 37 and 42 are directed to SEQ ID NOS: 4, 6, 8, 10, 12, 20, and 45 which are withdrawn from further consideration pursuant to 37 C.F.R. §1.142(b), as being drawn to nonelected inventions, there being no allowable generic or linking claim. The Examiner indicated that applicant timely traversed the restriction (election) requirement in the reply filed on August 18, 2006. The Examiner indicated that the restriction was made final in the Office action mailed on November 14, 2006. The Examiner indicated that this application contains newly added claims 37 and 42 drawn to subject matter (SEQ ID NOS: 4, 6, 8, 10, 12, 20, and 45) which was nonelected with traverse in the reply filed on August 18, 2006.

In response, without acknowledging the correctness of the Examiner's position and in order to expedite prosecution, applicants have amended each of claims 37 and 42 to remove non-elected SEQ ID NOS. Accordingly, applicants maintain that the amended claims are not drawn to non-elected inventions and respectfully request that the Examiner reconsider and withdraw the election/restriction requirement.

Claim Objections

The Examiner objected to pending claims 37 and 42 for containing non-elected SEQ ID NOS: 4, 6, 8, 10, 12, 20, and 45.

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In response, without acknowledging the correctness of the Examiner's position and in order to expedite prosecution, applicants have amended each of claims 37 and 42 to remove the objected language. Accordingly, applicants respectfully maintain that claim 37 to 42 are not objectional and respectfully request that the Examiner reconsider and withdraw this objection.

Claim Rejections Under 35 U.S.C. § 112, First Paragraph
(Enablement)

The Examiner rejected claims 37-49 under 35 U.S.C. §112, first paragraph, because the specification, while being enabling for a method of increasing the transpiration efficiency of a plant comprising introducing and expressing a nucleotide sequence encoding the ERECTA protein of SEQ ID NO: 2 in said plant, allegedly does not reasonably provide enablement for introducing a nucleic acid sequence encoding SEQ ID NO: 2 in a plant cell or plant by a method other than transformation.

Applicants' Response

In response, without acknowledging the correctness of the Examiner's position and in order to expedite prosecution, applicants have amended each of claims 37, 40, 42 and 45 to 47. Applicants maintain that the amended claims are fully enabled by the specification as originally filed. Accordingly, applicants respectfully request that the Examiner reconsider and withdraw the rejection of each of claims 37 to 47.

Claim Rejection Under 35 U.S.C. §§ 102 and 103

The Examiner rejected pending claims claims 37-49 under 35 U.S.C. §102(b) as allegedly anticipated by or, in the alternative, under

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35 U.S.C. §103(a) as allegedly obvious over Mitsukawa et al. (Japanese Patent Publication No. JP 09056382 A, published March 4, 1997) and evidenced by Masle et al. (Nature, 436:866-870, 2005) for the reasons of record as applied to the previously presented claims (12-19, now cancelled) stated in the Office action mailed on November 14, 2006. The Examiner indicated that applicants traversed the rejection for claims (12-19, now cancelled) in the paper filed on May 18, 2007.

The Examiner alleged that applicants argue that introducing a nucleic acid encoding an ERECTA protein (SEQ ID NO: 2) into a culture of plant cells does not result in the expression of ERECTA protein in all plant cells or plants. The Examiner alleged that applicants further argue that there will be plant cells in the culture that do not express the nucleic acid and consequently some of the plants will not express the nucleic acid. The Examiner alleged that applicants further argue that claim 37 and 42 require selecting for plants having enhanced transpiration efficiency (response, page 22, lines 1-24). The Examiner alleged that applicants further argue that Mitsukawa et al. do not explicitly teach selection of plants having enhanced transpiration efficiency based upon expression of an ERECTA protein. The Examiner alleged that applicants further argue that Mitsukawa do not inherently teach Applicant's claimed method (response, last paragraph bridging pages 22 and 23). The Examiner alleged that applicants further argue that the ERECTA protein and transcriptional efficiency was not known until Applicants invention. The Examiner alleged that applicants further argue that it would not have been obvious to one of ordinary skill in the art to produce, and/or to select for, plants expressing the ERECTA protein based on increased transcriptional efficiency (response, page 23, lines 9-16).

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The Examiner indicated that applicants arguments' were fully considered but were not found to be persuasive. The Examiner alleged that it is maintained that Mitsukawa et al. disclose a transgenic plant and a method of producing said transgenic plant comprising introducing and expressing a nucleotide sequence encoding the protein of accession No. AAW13408, which has 100% sequence identity to instant SEQ ID NO: 2.

The Examiner alleged that it is further maintained that the property of increasing the transpiration efficiency of a plant is inherent to the method of making said transgenic plant disclosed in the reference because Mitsukawa et al.'s method used the protein having 100% sequence identity to instant SEQ ID NO: 2. The Examiner alleged that furthermore, it is maintained that the inherent property of increased transpiration efficiency is further evidenced by Masle et al. who disclose a ERECTA gene encoding a protein having 100% sequence identity to instant SEQ ID NO: 2, and wherein expression of said gene in a transgenic plant resulted in increased transpiration efficiency. See MPEP 2111.02.

The Examiner alleged that as discussed in previous Office action, it is important to note that neither the specification nor the prior art suggests that transgenic plant population expressing a polynucleotide encoding instant SEQ ID NO: 2 results in a significant proportion of transgenic plants which do not exhibit an increased transpiration efficiency phenotype. The Examiner alleged that it would have been obvious to one of ordinary skill in the art to select for a transgenic plant with increased transpiration efficiency because selection of a transgenic plant with a phenotype would have been the ultimate useful goal without any surprising or unexpected results.

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The Examiner alleged that in order to avoid time consuming and expensive method step of plant transformation, it would have been further obvious for one of ordinary skill in the art to propagate the transgenic material overexpressing SEQ ID NO: 2, by transferring the useful-trait of "enhanced transpiration efficiency" to other economically useful cultivars of the same plant species using any plant breeding method of gene introgression with reasonable expectation of success.

Applicants' Response

In response, applicants respectfully traverse.

Applicants initially note that Mitsukawa et al. teaches the introduction of a nucleic acid to an Arabidopsis plant only. Applicants note that claim 39 recites the method of claim 37, wherein the plant cells of the culture are selected from the group consisting of rice, sorghum, wheat and maize and that claim 44 recites the method of claim 42, wherein the plant is selected from the group consisting of rice, sorghum, wheat and maize. Mitsukawa et al. do not teach a method for transforming rice, sorghum, wheat and maize. Therefore, Mitsukawa et al. cannot inherently anticipate claims 39 and 42 of the subject application.

Furthermore, as the Examiner is aware, a proper rejection on the theory of inherent anticipation requires a showing that the rejected method necessarily occurred in the prior art. There is no showing on this record that applicants step of "selecting for plants having enhanced transpirational efficiency" necessarily occurred in the prior art.

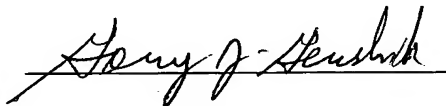
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In view of the forgoing, applicants respectfully request that the Examiner reconsider and withdraw the rejection under 35 U.S.C. §§ 102 and 103.

If a telephone interview would be of assistance in advancing prosecution of the subject application, applicants' undersigned attorney invites the Examiner to telephone him at the number provided below.

No fee, other than the enclosed \$1,050.00 fee for a three-month extension of time and the enclosed \$810.00 fee for filing a Request for Continued Examination (RCE), is deemed necessary in connection with the filing of this Amendment. However, if any additional fee is required authorization is hereby given to charge the amount of any such fee to Deposit Account No. 03-3125.

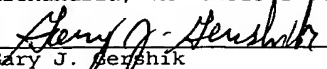
Respectfully submitted,



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